

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing Of Claims:

1.-11. (Canceled)

12. (New) An electronic control unit, comprising:

a software module including software that includes components, wherein:

the software includes a plurality of software interfaces that are optimized with respect to an exchange of data and provided for an optional coupling in of a plurality of applications, and

the software includes at least one application-specific software code of a component for each application capable of being coupled in, the at least one application-specific code being activated when the application is coupled in.

13. (New) The electronic control unit as recited in Claim 12, wherein:

the software has a hierarchical layer architecture with respect to a mutual access possibility of the software components, each software component being assigned to a layer.

14. (New) The electronic control unit as recited in Claim 13, wherein:

the hierarchical layer architecture implements a separation of hardware-independent software components from hardware-dependent software components.

15. (New) The electronic control unit as recited in Claim 12, wherein:

the software interfaces are grouped into “on board” and “off board” interfaces as a function of the respective applications that may be coupled to them.

16. (New) The electronic control unit as recited in Claim 12, wherein:

the software assumes in each case one of several possible operating states, as a function of data present at the software interfaces and therein supports exclusively condition-specific functionalities.

17. (New) The electronic control unit as recited in Claim 12, wherein:
the software may assume, as the operating state, one of a “software update” state, a “software parameterization” state, a “software diagnosis” state, a “coasting” state, a “monitoring” state”, and an “on” state.
18. (New) The electronic control unit as recited in Claim 12, wherein the electronic control unit is used in an automobile electronic system for controlling operating sequences in a vehicle.
19. (New) A method for specifying a software architecture for an electronic control unit, comprising:
after a specification of defined software interfaces, of software components, of software layers, and of software operating states, automatically assigning in each case the software components to the software layers and to the software operating states; and
verifying assignments made by the automatically assigning step by performing a subsequent analysis and checking interactions implemented based on the assignments.
20. (New) The method as recited in Claim 19, further comprising:
in the case of insufficient assignments, subdividing at least one of the software components into specified subcomponents, the software layers into specified sublayers, and the software operating states into specified substates; and
automatically carrying out a renewed assignment.
21. (New) A computer program having a program code that when executed results in a performance of the following:
after a specification of defined software interfaces, of software components, of software layers, and of software operating states, automatically assigning in each case the software components to the software layers and to the software operating states; and
verifying assignments made by the automatically assigning step by performing a subsequent analysis and checking interactions implemented based on the assignments
22. (New) The computer program as recited in Claim 21, wherein:
the computer program is embodied in a computer program product.